

Amendments to the Specification:

Please delete the paragraph beginning on page 9, line 10 and ending on page 10, line 3 and insert the following paragraph:

The present invention is directed to a method of inducing the body to produce an antibody against the region of the CCR5 receptor in wild type individuals, that is affected by the delta 32 deletion and vaccines for producing said antibody. The antibody is produced is by treating the individual using a vaccine consisting of the following polypeptide and derivatives thereof disclosed in SEQ ID NO:1-3.

~~Y S Q Y Q F W K N F Q T L K I V I L G L V L P L~~
~~L V M V I C Y S G I L K T L L R C R N E K K R~~
(~~Tyr Ser Gln Tyr Gln Phe Trp Lys Asn Phe Gln Thr Leu~~
~~Lys Ile Val Ile Leu Gly Leu Val Leu Pro Leu Leu Val~~
~~Met Val Ile Cys Tyr Ser Gly Ile Leu Lys Thr Leu Leu~~
~~Arg Cys Arg Asn Glu Lys Lys Arg~~)

The polypeptide based vaccine of the present invention contains the amino acids that are present in the wild type CCR5 receptor, that are eliminated or replaced in the delta 32 deletion. Using this molecule (or a derivative of it), the body will produce an antibody, that binds to the CCR5 receptor.

Please delete the paragraph beginning on page 11, line 4 and ending on page 12, line 8, and insert the following paragraph:

The treatment of the present invention entails the inducing of the body to produce an antibody against the region of the CCR5 receptor, in wild type individuals, that is effected by the delta 32 deletion. This is accomplished by using a vaccine consisting of the following polypeptide disclosed in SEQ ID NO:1:

~~Y S Q Y Q F W K N F Q T L K I V I L G L V L P L~~
~~L V M V I C Y S G I L K T L L R C R N E K K R~~
(~~Tyr Ser Gln Tyr Gln Phe Trp Lys Asn Phe Gln Thr Leu~~
~~Lys Ile Val Ile Leu Gly Leu Val Leu Pro Leu Leu Val~~
~~Met Val Ile Cys Tyr Ser Gly Ile Leu Lys Thr Leu Leu~~
~~Arg Cys Arg Asn Glu Lys Lys Arg~~).

Derivatives of the polypeptide may include compounds in which any one or more of the amino acids in the invention has been substituted with one of similar charge, acidity, basicity, structure or functional group. For instance in the initial amino acid sequence shown in SEQ ID NO:1, Tyr-Ser-Tyr-Gln-Tyr-Ser-Gln-Tyr, Serine (Ser) is an amino acid containing a hydroxyl group. Threonine (Thr) is also a hydroxyl group containing amino acid. A derivative of the polypeptide would include Tyr-Thr-Tyr-Gln Tyr-Thr-Gln-Tyr, as shown in SEQ ID NO:2, in which one hydroxyl containing amino acid is substituted for another. Likewise in the sequence Leu-Leu-Val-Met-Val disclosed

in SEQ ID NO:1, Methionine (Met) is a sulfur containing side chain. A derivative of this would include Leu-Leu-Val-Cys-Val, as disclosed in SEQ ID NO:3, where the sulfur containing amino acid Cysteine (Cys) is substituted for the sulfur containing Met. Likewise derivatives may also include chemical modifications of the amino acids described in this invention. For instance, many of the amino acids can be methylated, hydrated, or modified using several other standard chemical methods. These modified amino acids would also be considered derivatives of the invention. This invention also includes the three dimensional structure that is generated by this amino acid sequence. It is possible that a molecule with the same three dimensional structure of the invention, can be generated using a completely different set of amino acids. This new molecule would also be considered a derivative of this invention.